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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,951	03/07/2005	Janne Muhonen	59643.00579	8417
32294 7590 10/21/2009 SQUIRE, SANDERS & DEMPSEY L.L.P. 8000 TOWERS CRESCENT DRIVE 14TH FLOOR VIENNA, VA 22182-6212				
EXAMINER BROOKS, SHANNON				
ART UNIT		PAPER NUMBER		
2617				
MAIL DATE		DELIVERY MODE		
10/21/2009		PAPER		

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JANNE MUHONEN

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Appeal 2009-004656  
Application 10/522,951  
Technology Center 2600

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Decided: October 21, 2009

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Before MAHSHID D. SAADAT, ROBERT E. NAPPI, and  
CARLA M. KRIVAK, *Administrative Patent Judges*.

KRIVAK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from a final rejection of claims 29-67. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

## STATEMENT OF THE CASE

Appellant's claimed invention is an apparatus and method for providing current location information about a mobile telecommunications device, such as a cellular device, without expending corresponding wireless bandwidth (Spec. 1, ll. 3-5, 9-10; Spec. 2, ll. 5-7; cl. 29; Spec. 6, ll. 10-12; Spec. 7, ll. 12-16). Because wireless bandwidth is a valuable and limited resource, the claimed invention seeks to avoid its use when identifying the current location of a mobile device by using a sufficiently recent identification of the last known location of a mobile device as the current location. (Spec. 1, ll. 9-10; Spec. 2, ll. 5-7; Spec. 7, ll. 12-16). Upon receipt of a request for a current location of a mobile device, the claimed invention determines the time when the last known location was specified and compares that time to a threshold time limit (Spec. 2, ll. 9-14; Spec. 7, ll. 12-16; Figs. 2, 5; cl. 29). If the time of last known location is less than the threshold value, the last known location is provided as the current location of the mobile device (Spec. 2, ll. 9-14; Spec. 7, ll. 12-16; Figs. 2, 5; cl. 29).

Independent claim 29, reproduced below, is representative of the subject matter on appeal.

29. A method comprising:

receiving a request for a current location of a mobile station in a mobile communication system;

determining a time at which a last known location of the mobile station was determined;

comparing the time to a threshold time limit; and

in response to the comparing, providing, as the current location, the last known location if the time is within the threshold time limit.

#### REFERENCES

Hanson	US 6,023,624	Feb. 8, 2000
Kallin	US 6,058,308	May 2, 2000

The Examiner rejected claims 29-67 under 35 U.S.C. § 103(a) based upon the teachings of Hanson and Kallin.

Appellant contends neither Hanson nor Kallin teaches comparing a time at which a last known location of a mobile station was determined to a threshold time limit, and then providing the last known location as a current location of the mobile station if the time is within the threshold time limit (App. Br. 6-40; Reply Br. 3-5).<sup>1</sup>

#### ISSUES

Has Appellant established the Examiner erred in finding Hanson and Kallin teach comparing a time at which a last known location of a mobile station was determined to a threshold time limit and then providing the last known location as a current location if the time is within the threshold time limit?

#### FINDINGS OF FACT

1. Appellant's invention discloses, receiving a request for a current location of a mobile device or station and comparing the time when a

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<sup>1</sup> Appellant's Appeal Brief filed May 1, 2008, and Appellant's Reply Brief filed October 6, 2008, are referred to throughout this Opinion.

last known location of the device was determined with a threshold time limit (Spec. 1, ll. 3-5; Spec. 2, ll. 9-14; Spec. 7, ll. 12-16; Figs. 2, 5; cl. 29). The last known location is provided as the current location of the mobile device if the time of the last known location is less than the threshold value (Spec. 2, ll. 9-14; Spec. 7, ll. 12-16; Figs. 2, 5; cl. 29).

2. Hanson teaches location-based paging of mobile telephone units (MTUs) to conserve paging resources in a wireless cellular telecommunications system (col. 1, ll. 12-14; Title; Abstract). The process begins when a call comes in for a target MTU (col. 3, ll. 63-64; step 501 in Fig. 5). The MTU performs periodic autonomous registrations allowing a cellular telecommunications system to locate the cell where the MTU can presently be found (col. 1, ll. 42-49). This anticipates cases where a target MTU is likely to be close to the cell where it was most recently found (col. 3, ll. 53-56) by initially sending a paging signal restricted to that cell and its neighbors (col. 3, ll. 58-62).

3. In Hanson, after receiving a call for a target MTU in step 501, in step 503 “[t]he subscriber database record is consulted (action block 503) to determine the time of the most recent registration or other location action and to find the identification of the cell in which the MTU was most recently found (new cell)” (col. 3, l. 64 – col. 4, l. 1; Fig. 5).

4. After the time of the most recent MTU registration is determined in step 503 of Hanson, the time of the most recent MTU registration is compared against four different threshold time values in steps 531, 533, 535, and 505 (col. 4, l. 1-5; Fig. 5). The four different threshold time values are arranged such that the time of the most recent MTU

registration is compared against successively shorter times corresponding to succeeding smaller paging areas (col. 4, l. 1-12; Fig. 5).

5. After comparing the time of the most recent MTU registration in Hanson, if the time is less than all four different threshold time values, then the most recent registration cell, i.e., “new registration cell,” is identified in step 507 as the target cell. The target cell is then paged along with its neighboring cells (col. 4, l. 23-32, 40-45, 52-55; Fig. 5).

6. Kallin teaches adaptively selecting a paging area for a mobile terminal based on the amount of time elapsed since its position was last located (Abstract, col. 4, ll. 10-19). A registration procedure is performed, providing the network with an indication of the position of the mobile terminal (col. 2, ll. 27-31). During the registration procedure, the mobile terminal reports its position by accessing a network station at regular intervals (col. 2, ll. 30-33). The network station receives the registration report indicating the location of the mobile terminal (col. 2, ll. 34-36). The registration report is maintained in a record (Abstract, col. 4, ll. 13-16) that is used to select a paging area throughout which the page is to be broadcast and is proximate to the location indicated by the record (col. 4, ll. 16-18).

## PRINCIPLES OF LAW

The Examiner bears the initial burden of presenting a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). If that burden is met, then the burden shifts to the Appellant to overcome the prima facie case with argument and/or evidence. *See Id.*

## ANALYSIS

### *Claims 29-40*

The Examiner rejected claims 29-40 over Hanson and Kallin (Ans. 3, 4, 6-8, and 12-16). Appellant argues this rejection separately with respect to each of claims 29-40 (App. Br. 6-14; Reply Br. 3-5).

The Examiner finds all the limitations of claim 29 in Hanson (Ans. 15), and cites Kallin as providing additional support for “the technique of recording the location of last access by a mobile and then expanding the paging area” (Ans. 3, 15).

Appellant asserts that Hanson and Kallin do not disclose or suggest the elements recited in claim 29 (App. Br. 6, 8, and 11; Reply Br. 3, 5). Appellant asserts Kallin maintains a record of information indicative of the most recent mobile station position, but that neither Hanson nor Kallin provides a current location (App. Br. 8-9; Reply Br. 5). Finally, Appellant asserts “Kallin is silent regarding the provision of location information” (App. Br. 9).

As the Examiner finds, Hanson discloses a process that begins when a call comes in for a target MTU (Ans. 3, 13; FF 2). Hanson then accesses a subscriber database record to determine the time of the most recent registration and to determine the cell in which the MTU was most recently found (Ans. 3, 13; FF 3). The time of the most recent MTU registration is compared against up to four different threshold time values (Ans. 3, 13-15; FF 4). Depending on the results of these comparisons, Hanson identifies successively smaller areas for paging (Ans. 14, 15; FF 4). After the comparison, if the time is less than all four different threshold time values, then the most recent registration cell is identified as the target cell and that

cell is paged (Ans. 3, 14, and 15; FF 5). Although Hanson does not expressly teach providing the last known location as the current location, Hanson inherently teaches this by providing the last known location of the MTU to effect paging in the target cell (the current location) in response to performing the comparison.

Kallin teaches registering a mobile terminal with a network and providing the network with an indication of the position at which the mobile terminal is located (FF 6). Additionally, Kallin teaches storing a record of the most recent location of a pager (Ans. 15; FF 6). The record is used to select a paging area where the page is to be broadcast (FF 6). Therefore, the argument that “Kallin is silent regarding the provision of location information” (App. Br. 9) is without merit because, contrary to Appellant’s assertions, Kallin does provide a record containing the most recent (current) location of a pager.

Because the Examiner has shown that Hanson suggests all of the limitations of claim 29, and that Kallin further supports the Examiner’s findings, claim 29 is obvious over the teachings of Hanson and Kallin.

Appellant provides substantially the same arguments with respect to claims 30-40 (App. Br. 11-14; Reply Br. 5). Therefore, for the reasons set forth above, claims 29-40 are obvious over Hanson and Kallin.

#### *Claims 41-67*

The Examiner rejected claims 41-67 over Hanson and Kallin (Ans. 3-18). Appellant argues these rejections separately but raises substantially the same issues as those set forth above with respect to claim 29 (App. Br. 14-40; Reply Br. 3-5). Therefore, for the reasons stated above, claims 41-67 are obvious over Hanson and Kallin.



### CONCLUSION

Appellant has not established the Examiner erred in finding Hanson and Kallin teach the claimed apparatus and method for comparing a time at which a last known location of a mobile station was determined to a threshold time limit, and then providing the last known location as a current location if the time is within the threshold time limit.

### DECISION

The Examiner's decision rejecting claims 29-67 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

### AFFIRMED

KIS

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